

WHAT IS CLAIMED IS:

1. A film core article for carrying a length of film the film core comprising a generally cylindrical outer surface adapted to receive said length of film, said outer surface further comprising a recess formed in the outer surface and shaped to receive a housing of a circuitry chip of a radio frequency transponder provided on a flexible substrate that is joined to the outer surface before the core receives the length of film.
2. The film core article of claim 1 wherein said recess is a hole drilled into the cylindrical outer surface of the film core.
3. The film core article of claim 1 wherein said recess is molded into the cylindrical outer surface of the film core.
4. The film core article of claim 1 wherein the transponder is adhesively attached to the cylindrical outer surface of the film core.
5. The film core article of claim 1 wherein said flexible substrate has an adhesive layer for holding the transponder to the outer surface of the film core.
6. The film core article of claim 1 wherein said recess is a hole notched into the cylindrical outer surface of the film core.
7. The film core article of claim 1 wherein the film is a motion picture print film.
8. The film core article of claim 1 wherein the film is a motion picture negative film.

9. The film core article of claim 1 wherein the film is a magnetic tape.
10. A film core article for carrying the length of film, the film core article comprising:
 - a cylindrical outer surface of a film core for carrying the length of film wound thereon; said outer surface having a recess therein; and;
 - a radio-frequency transponder on a flexible substrate adhered to the cylindrical outer surface of the film core, said radio frequency transponder comprising an antenna and a radio frequency communication system having a housing fitting at least in part in said recess, so that said flexible substrate provides a generally uniform exterior surface to receive the length of film.
11. The film core article of claim 10 wherein said recess is a hole drilled into the cylindrical outer surface of the film core.
12. The film core article of claim 10 wherein said recess is molded into the cylindrical outer surface of the film core.
13. The film core article of claim 10 wherein said flexible substrate has an adhesive layer for holding the transponder to the outer surface of the film core.
14. A film core article, comprising:
 - a radio frequency transponder fitted into a film feed slot in a cylindrical outer surface of a film core; and
 - an antenna connected to said radio frequency transponder, said antenna fabricated on a flexible substrate and wrapped circumferentially about the cylindrical outer surface of the film core.
15. The film core article of claim 14 wherein said flexible substrate has an adhesive layer for holding the transponder to the outer surface of the film core.

16. The film core article of claim 14 wherein said flexible substrate is a polyester.

17. A film core article comprising:

a film core having an outer wall with an exterior surface defining a generally cylindrical shape; and

a transponder joined to the exterior surface, said transponder having a transceiver circuit and a memory circuit contained within a transponder housing, said housing having a housing thickness;

an antenna joined to the transponder housing having an antenna thickness, and electrically cooperating with the transceiver circuit; and

a substrate joined to the exterior surface of the film core having a film engagement surface on one side of the substrate and an outer surface on the other side, with a substrate thickness defined between the sides, said substrate having the transceiver circuit and memory circuit provided thereon;

wherein at least one of the outer wall, the antenna and the substrate has a recess defined therein to receive at least a part of the transponder housing so that the outer surface does not have a protrusion caused by the transponder housing.

18. The film core article of claim 17, wherein the combined thickness of the outer wall, antenna and substrate is greater than the thickness of the housing.

19. The film core article of claim 17 wherein said antenna has a pattern and wherein at least one of the substrate and the outer wall has a space defined therein to receive the antenna so that the outer surface does not have a protrusion caused by the antenna pattern.

20. The film core article of claim 17 wherein said antenna has a pattern and wherein a thickness of a non-conductive material is located in gaps in

antenna pattern so that the outer surface does not have a protrusion caused by the antenna pattern.

21. A method for forming a film core as a carrier for a radio frequency transponder, the method comprising the steps of:

forming a recess in a cylindrical outer surface of a core said recess shaped to receive, at least in part, a housing containing transponder circuitry for the radio frequency transponder; and

affixing the radio frequency transponder to the cylindrical outer surface of the core, with said housing being at least partially positioned within said recess.

22. The method of claim 21 wherein the step of forming said recess comprises the step of drilling a hole in the outer surface of the film core.

23. The method of claim 21 wherein the step of affixing the radio frequency transponder comprises the steps of removing a protective layer from a peel-and-stick radio frequency transponder and joining the peel-and-stick radio frequency transponder.

24. A method for forming a film core as a carrier for a radio frequency transponder, the method comprising the steps of:

inserting a transponder circuitry component of the radio-frequency transponder into a film feed slot in the cylindrical outer surface of the film core; and,

wrapping an antenna component of the radio-frequency transponder circumferentially about the cylindrical outer surface of the film core, said antenna connected to said radio frequency transponder circuitry component, said antenna fabricated on a flexible substrate.

25. The method of claim 20 wherein the step of wrapping an antenna comprises the step of adhering said flexible substrate to the cylindrical outer surface of the film core.